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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/398,624	09/17/1999	JAMES B. KELLER	5500-46200	1320

7590

12/18/2002

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EXAMINER

WAXMAN, ANDREW

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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5187780

Office Action Summary

Application No.

09/398,624

Applicant(s)

KELLER ET AL.

Examiner

Andrew M Waxman

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10,12-15,18 and 19 is/are rejected.
- 7) ☒ Claim(s) 2,8,9,11, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4-7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5-7, 10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller, patent number 6,370,621, in view of Scott et al., patent number 5,748,900, herein after referred to as Scott.

3. Regarding claim 10, Keller discloses a computer system (Fig. 1) including a first node (12A) configured to send a response packet (Fig. 5 see col. 7 lines 47-67) to a second node (12B). The second node 12B includes interface logic (18D-18F) that contains a variety of buffers for transmitting and receiving packets (see col. 5 and 6 lines 56-67 and 1-4), as recited in claims 10 and 15.

4. Keller does not disclose utilizing virtual channels for communication along the physical connections between the nodes. Keller also does not disclose assigning specific buffers to specific virtual channels, as recited in claims 10 and 15.

5. Scott discloses a mechanism in which buffers are partitioned among virtual channels (see Scott col. 7-8 lines 65-67 and 1-8).

6. At the time the invention was made it would have been obvious to one of ordinary skill in the art to include virtual channels for communication over a physical connection and the mechanism as disclosed by Scott in the computer system as disclosed by Keller.

7. One of ordinary skill in the art would have been motivated to do this in order to provide multiple communications links, through the use of virtual channels, over a physical connection, and to help facilitate with the communication congestion control between various nodes (see Scott col. 7 lines 41-51).

8. Regarding claim 13, Keller further discloses a system including a second node (12B) which includes a response data buffer to store response data packets (18D-18F see col. 5-6 lines 56-67 and 1-4) and a first node (12A) configured to transmit a response data packet (Fig. 7 see col. 8 lines 44-54) specified by a response packet (Fig. 5 see col. 7 lines 47-67).

9. Regarding claim 14 Keller further discloses a first node (12A) configured to transmit a response data packet (Fig. 7 see col. 8 lines 44-54) specified by a response packet (Fig. 5 see col. 7 lines 47-67) and a second node (12B) configured to store the response data packet in a response data buffer (18D-18F see col. 5-6 lines 56-67 and 1-4).

10. Regarding claim 15, Keller further discloses a second node (12B) configured to generate a control packet (Figs. 3-6 see col. 6 lines 64-65).

11. Regarding claims 1 and 5-7, claims 1 and 5-7 recite the methods implemented by the computer system as disclosed with respect to claims 10 and 13-15. Since the computer system is disclosed by Keller in view of Scott, the method implemented by the system is inherent to Keller in view of Scott.

12. Claims 3, 4, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller in view of Scott and further in view of Craddock et al., patent number 6,005,851, herein after referred to as Craddock.

13. Regarding claim 12, Keller in view of Scott discloses all of the limitations with respect to claim 10 above.

14. Keller in view of Scott does not disclose two different virtual channels being configured to transmit two different types of data packets.

15. Craddock teaches an apparatus in which two different virtual channels are configured to transmit two different types of data packets (see col. 3 lines 22-42).

16. At the time the invention was made it would have been obvious to one of ordinary skill in the art to dedicate different virtual channels to different types of data packets, as disclosed by Craddock, in the system as disclosed by Keller in view of Scott. Since two of the types of command packets used by the system are non-posted and probe it would furthermore be obvious to make one virtual channel a non-posted and the other a probe.

17. One of ordinary skill in the art would have been motivated to do this in order to reduce the risk of transmission conflict therefore making the invention more marketable.

18. Regarding claims 3 and 4, claims 3 and 4 recite the methods implemented by the computer system as disclosed with respect to claim 12. Since the computer system is disclosed by Keller in view of Scott and Craddock, the method implemented by the system is inherent to Keller in view of Scott and Craddock.

19. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keller.

20. Regarding claim 19, Keller discloses a method for routing packets among a plurality of nodes (Fig. 9 70 and 72) including receiving a first command packet (Read Command) in a first node (72). Generating a response packet (Read Response) in the first node (72). Transmitting the response packet from first node (72) to its destination.

21. Keller does not disclose using virtual channels to facilitate the communication within this computer system.

22. It is well known in the art that virtual channels are used with in a physical communications medium to send packets of information from one node to another.

23. At the time the invention was made it would have been obvious to one of ordinary skill in the art to use dedicated virtual channels to facilitate the communication within the computer system as disclosed by Keller.

24. One of ordinary skill in the art would have been motivated to do this to allow for multiple communication links over one physical communications medium, in turn making the invention more marketable.

25. Regarding claim 18, claim 18 discloses the method as implemented by the computer system as recited in claim 19. Since the computer system implementing the method is disclosed by Keller the method is inherent to Keller.

Allowable Subject Matter

26. Claims 2, 8, 9, 11, 16, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bailey et al., discloses a method for distributing interrupts
Hughes et al., discloses a staging buffer.
Daniel et al., discloses an ATM communication system.
Keller et al., patent number 6,389,526, discloses a circuit and method for selectively stalling interrupt requests.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M Waxman whose telephone number is (703) 305-8086. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

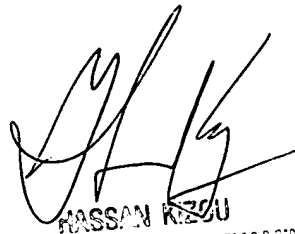

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

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Andrew M. Waxman
December 16, 2002



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